ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

August 30, 1995

Ms. Sonia Vega
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Pekin Municipal Landfill #1
Pekin, Illinois
CERCLIS ID No.: ILD980901615
Focused Site Inspection Prioritization
Contract No.: 68-W0-0037
TDD No.: T05-9503-217

Dear Ms. Vega:

Ecology and Environment, Inc., (E & E) has prepared the enclosed Site Evaluation Report (SER) for the above-referenced site. E & E reviewed available information and prepared a preliminary Hazard Ranking System (HRS) score for the Pekin Municipal Landfill #1 site using PREscore Software (Version 3.0), Publication No. 9450.2200, dated August 1994. Based on E & E's findings, the preliminary HRS score for the Pekin Municipal Landfill #1 site is less than 28.50. Therefore, E & E recommends that the site receive a No Further Remedial Action Planned (NFRAP) designation.

Screening Site Inspection Sample Analytical Data collected in 1989 are included in Appendix A of the SER. Appendix B contains pertinent references used in the preparation of this SER. Per your request, references not provided include: documents that are currently available within U.S. EPA files; copyrighted documents that are currently available in E & E's library; maps produced by either the United States Geologic Survey or the Illinois State Geologic Survey; and documents that are created by the various state agencies for public use.

The U.S. Environmental Protection Agency (U.S. EPA) Recommendation Form is included in Enclosure 1. The Pekin Municipal Landfill #1 site's preliminary HRS score is documented in a transmittal memorandum and the HRS scoresheets in Enclosure 2.

If you have any questions, please call me at 716/684-8060.

Sincerely,

Robert Meyers

Enclosures (2)
cc: Tom Crause, IEPA
Steven Skare, E & E Program Leader

FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

PEKIN MUNICIPAL LANDFILL #1
MANITO ROAD AND ILLINOIS ROUTE 29
PEKIN, ILLINOIS

CERCLIS ID NO.: ILD980901615

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SITE ASSESSMENT SECTION
77 West Jackson Boulevard
Chicago, Illinois 60604

Date Prepared:	September 29, 1995
U.S. EPA Region:	5
Contract No.:	68-W0-0037
Technical Direction Document No.:	T05-9503-217
Prepared by:	Ecology and Environment, Inc. Robert Meyers and Alix Rauschman
E & E Program Leader:	Steven Skare
Telephone No.:	(312) 663-9415

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1. INTRODUCTION

The Ecology and Environment, Inc., (E & E) Technical Assistance Team (TAT) was assigned by the United States Environmental Protection Agency (U.S. EPA) under Contract No. 68-W0-0037, Technical Direction Document (TDD) T05-9503-217, to evaluate the Pekin Municipal Landfill #1 site located in the City of Pekin, Tazewell County, Illinois. E & E performed Focused Site Inspection Prioritization (FSIP) activities for the site to determine whether, or to what extent, it poses a threat to human health and the environment. This FSIP report presents the results of E & E's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways associated with the site. Information was obtained from the Screening Site Inspection (SSI) report prepared by E & E in September 1989 and from U.S. EPA files.

This report is organized into six sections, including this introduction. Section 2 describes the site and provides a brief site history. Section 3 provides information about previous investigations conducted at the site, and Section 4 provides information about the four migration and exposure pathways (groundwater migration, surface water migration, soil exposure, and air migration). Section 5 summarizes site conditions. References used in the preparation of this report are listed in Section 6.

2. SITE DESCRIPTION AND HISTORY

The Pekin Municipal Landfill #1 site is located approximately 500 feet northwest of the intersection of Manito Road and Illinois Route 29 in the City of Pekin, Tazewell County, Illinois (sec. 9, T. 24 N., R. 5 W.). The coordinates for the site are at latitude 40°32'30" N and longitude 89°40'00" W (E & E 1989). It is currently a closed and covered dump in which general household refuse was deposited by the City of Pekin from 1965 to 1976 (E & E 1989). The area surrounding the site includes industrial, residential, and agricultural property. The site location is shown on Figure 2-1.

The site is bound to the west by the Chicago and Northwestern Railroad right-of-way and to the north by a vacant field. Beyond the railroad tracks to the west, a dirt road runs north to J-B Disposal Service. A portion of a vacant field directly south of the site boundary that contained exposed household debris was observed by the E & E Field Investigation Team (FIT) in 1989 during the SSI, indicating that the land south of the site may have been landfilled in the past. Southeast of the site is a wooded area. A small parcel of land east of the landfill and south of the access road is used as a storage area for Farmer's Grain Cooperative. The remaining area east of the site boundary is an empty field, and the area northeast of the site is adjacent to United Ready-Mix (E & E 1989). Site features are shown on Figure 2-2, including sample locations from E & E's 1989 SSI.

The Pekin Municipal Landfill #1 site encompasses approximately 25 acres of land (IEPA 1985). The site is situated in an abandoned gravel pit, which was excavated to a depth of 40 feet, approximately to the water table. The nearest surface water body is Lost Creek, located approximately 875 feet west of the site. Lost Creek flows north for approximately 0.75 mile, then discharges into the Illinois River. At the time of the SSI, the surface of the site was covered with tall, thick grasses and small trees. The trees were thickest in the area north of the access road near the site's eastern border and in the northwest section of the landfill. A small area directly west and slightly north of the access road appeared to have been plowed and was without vegetation. A small ditch (2 to 3 feet wide) was present in the

plowed area and ran toward the northern portion of the site. The ditch was dry in 1989 during the SSI. Erosion gullies were observed approximately 600 feet north of the plowed area, but no exposed refuse was present in the erosion gullies.

The site is generally lower in elevation than the surrounding land. It slopes downward toward the north and west. Along the eastern site border, a high ridge slopes sharply down and then levels off, with a slight downward slope toward the west. The southern section of the landfill is generally level, until north of the plowed area, where a gentle downward slope toward the north begins. The land rises sharply near the site's western border, and the railroad tracks are located well above the landfill. A leachate pond was observed during a site inspection conducted by the Illinois Environmental Protection Agency (IEPA) in 1977. Leachate was flowing from the face of the fill to the low point of the site, located in the northwest corner near the railroad tracks (E & E 1989).

The access road leading into the landfill is blocked by a gate, which was not locked at the time of the E & E FIT SSI. The access road is fenced on each side, and a fence separates the landfill from the Farmer's Grain property. The landfill is only partially fenced and is easily accessible. Footprints and motorcycle tracks were observed on the western edge of the site. Spent shotgun cartridges were scattered throughout the site area. A small patch (4 feet by 4 feet) of hardened tar-like material was observed along the east fence line where discarded drums were observed during the 1977 IEPA inspection. The ground surrounding the material appeared to be undisturbed.

In 1965, Frank Rosenberg, Inc., owner of the site property, entered into an agreement with the City of Pekin, Illinois, to use the site as a municipal landfill. On May 9, 1974, and April 2, 1975, the City of Pekin applied for landfill permits with IEPA. On May 15, 1974, a hydrologic evaluation for the area was requested from the Illinois State Water Survey (ISWS) and the Illinois State Geological Survey (ISGS). The evaluation revealed that the gravel beneath the abandoned gravel pit was highly permeable and extended to bedrock at a depth of 75 feet below ground surface (BGS). Due to the hydrologic unsuitability of the site, both permits were denied.

On April 14, 1975, IEPA filed a complaint with the Illinois Pollution Control Board (IPCB) alleging that the City of Pekin had operated a solid waste management site from July 27, 1974, until April 14, 1975, without the required operating permit from the agency. The City of Pekin ceased dumping material at the landfill around November 1975. During the last year of operation, the landfill received approximately 35,065 tons of waste. Approximately 8 to 10 acres of the landfill were filled (E & E 1989).

On February 11, 1976, IPCB ruled that the City of Pekin had operated a solid waste management site without the required IEPA permits. IPCB ordered the City of Pekin to cease and desist all solid waste disposal activities at the site, to prepare an acceptable plan of closure to be submitted to IEPA within 30 days of the order, to close the site in conformity with the rules and regulations of IPCB, and to provide and maintain leachate monitoring sites (E & E 1989). In response to the order, the City of Pekin filed an administrative review action in the Third District Appellate Court of Illinois. On April 6, 1977, the court affirmed all parts of the order except the requirement for submission of a closure plan, which was reversed.

On November 9, 1977, an inspection conducted by the IEPA revealed that most of the site did not have proper final cover, and that a leachate pond had developed in the northwest corner of the site. Approximately 20 barrels were also observed by IEPA personnel along the east fence line, south of the on-site road. The barrels were rusted out, and a tar-like substance had leaked out and congealed a few feet downhill (E & E 1989).

The State of Illinois filed a complaint in Circuit Court for the Tenth Judicial District, Tazewell County, Illinois, on March 9, 1978, seeking an injunction to force the City of Pekin to properly cover the landfill. The Circuit Court issued an injunction on November 13, 1979, ordering the City of Pekin to place a final cover at least 2 feet thick on the former landfill site by July 31, 1980 (E & E 1989). The site was inspected by the IEPA on July 29, 1980. The inspection disclosed that the facility was satisfactorily closed and covered, but warned that any future problems relating to leachate, surface drainage, erosion, or random dumping must be corrected promptly (E & E 1989).

IEPA inspections of the site during the period from 1981 to 1983 revealed that erosion had cut gullies into the final cover and underlying refuse had been exposed. Ponded water was present on the western edge of the site and unauthorized vehicles had driven over the final cover. As a result of the inspections, IEPA requested that remedial actions be taken to correct the problems (E & E 1989).

On August 5, 1983, the City of Pekin notified IEPA that the repair of erosion damage, erosion control, and the draining of a low-lying area at the Pekin Municipal Landfill #1 site was completed by Randolph and Associates, Inc., engineers for the City of Pekin.

Since 1983, there have been no regulatory actions taken by the IEPA at the Pekin Municipal Landfill #1 site. The Pekin Municipal Landfill #1 site has neither a Resource Conservation and Recovery Act (RCRA) nor a National Pollution Discharge Elimination System (NPDES) permit (E & E 1989).

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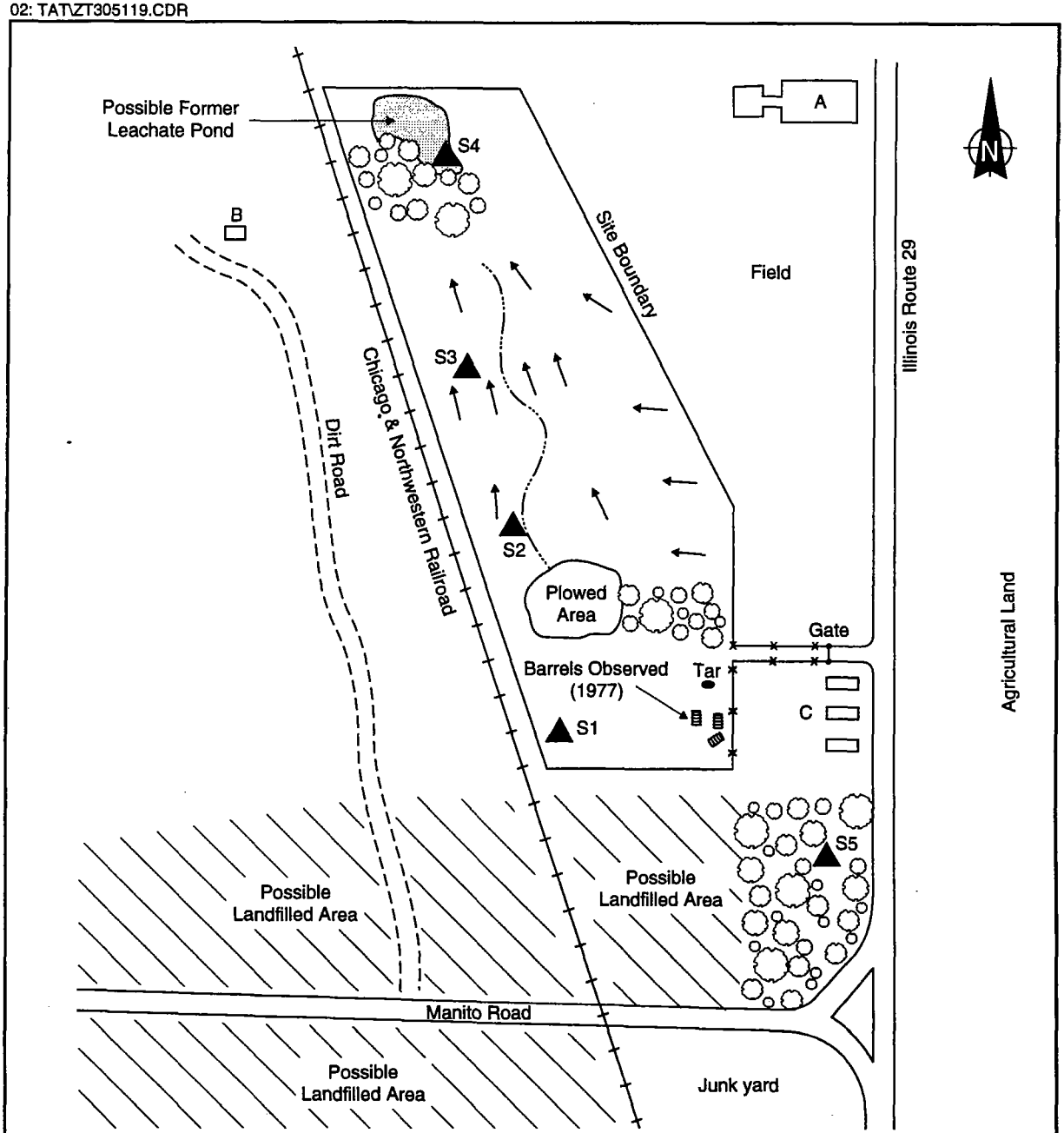

LEGEND

- Direction of Surface Slope
- Drainage
- Fence
- SSI Soil Sample Location
- Trees
- A — United Ready-Mix
- B — J-B Disposal Service
- C — Farmer's Grain Property

APPROXIMATE SCALE

0 200 400 600 800 1,000 Feet

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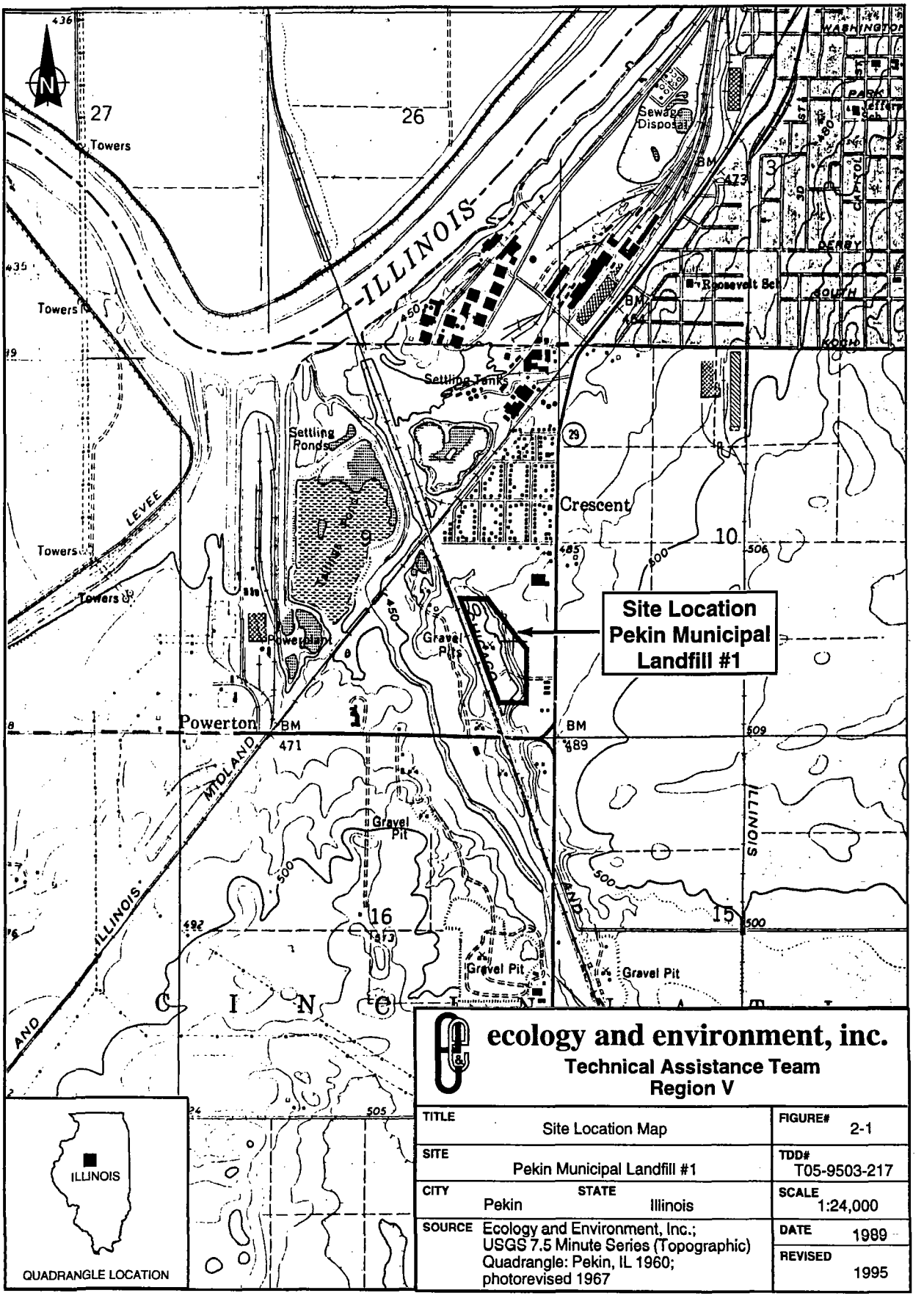
TITLE	Site Features Map and 1988 SSI Soil Sample Locations	FIGURE#	2-2
SITE	Pekin Municipal Landfill #1	TDD#	T05-9503-217
CITY	Pekin	STATE Illinois	SCALE
SOURCE	SSI Report 1989	DATE	1989
		REVISED	1995



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Region V

TITLE	Site Location Map	FIGURE#	2-1
SITE	Pekin Municipal Landfill #1	TDD#	T05-9503-217
CITY	Pekin	STATE Illinois	SCALE 1:24,000
SOURCE	Ecology and Environment, Inc.; USGS 7.5 Minute Series (Topographic) Quadrangle: Pekin, IL 1960; photorevised 1967	DATE	1989
		REVISED	1995

3. PREVIOUS INVESTIGATIONS

The Pekin Municipal Landfill #1 site was initially identified by the IEPA in the form of a Preliminary Assessment (PA) report submitted to U.S. EPA. The PA report was prepared by Mr. Kenneth Page of IEPA and is dated March 28, 1985 (E & E 1989).

The E & E FIT was tasked by the U.S. EPA to conduct an SSI of the Pekin Municipal Landfill #1 site, and an SSI of the site was conducted on November 15, 1988. The SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of five soil samples, one municipal well sample, and one utility well sample. Soil sample locations are provided on Figure 2-2, and groundwater sample locations are provided on Figure 4-1. The SSI concluded the following:

- Target Analyte List (TAL) analytes were detected in groundwater samples collected approximately 500 feet west of the site; however, these analytes could not be attributed to the site because they are commonly found in the area substrate;
- A low potential exists for TAL analytes detected in on-site soils to migrate from the site to groundwater in the vicinity of the site;
- No surface water samples were collected during the SSI, and no overland surface water migration pathway exists;
- No release of Target Compound List (TCL) or TAL chemicals to the air was documented during the SSI, and based on site conditions, there is little potential for windblown particulates to carry TAL analytes from the site; and
- There is a potential for the public to come into direct contact with TAL analytes detected in the surface soil samples on site.

Analytical results and other pertinent information obtained during the SSI are discussed in Sections 4 and 5 of this report.

4. MIGRATION AND EXPOSURE PATHWAYS

This section describes the four migration and exposure pathways associated with the Pekin Municipal Landfill #1 site. Section 4.1 discusses the groundwater migration pathway; Section 4.2 discusses the surface water migration pathway; Section 4.3 discusses the soil exposure pathway; and Section 4.4 discusses the air migration pathway.

4.1 GROUNDWATER MIGRATION PATHWAY

This section discusses geology and soils, groundwater releases, and targets associated with the groundwater migration pathway at the site.

4.1.1 Geology and Soils

The geology in the vicinity of the Pekin Municipal Landfill #1 site consists of Wisconsinan outwash deposits overlain by windblown sand and silt. The outwash consists of sandy gravel with beds of pebbly sand. Located immediately beneath the Wisconsinan outwash is the Sankoty Sand Member, which ranges in thickness from approximately 50 to 60 feet in the Pekin area. The Sankoty Sand ranges from fine to very coarse sand mixed with gravel. Beds of medium to coarse sand are most common within the Sankoty Sand Member. The Sankoty Sand and the overlying Wisconsinan outwash constitute the aquifer under investigation in the Pekin area. The depth of bedrock in the area of the site is believed to be approximately 75 feet below ground surface (BGS)(E & E 1989), although well logs from the area indicate the depth to bedrock might range from approximately 60 to 150 feet BGS within a 4-mile radius of the site. The Pennsylvanian-age bedrock underlying the site consists of 200 to 400 feet of alternating beds of shale, limestone, coal, and underclay of the Carbondale Formation (Willman 1967).

Groundwater in the vicinity of the site is believed to flow north, toward the Illinois River. Seven municipal wells that supply drinking water for the City of Pekin range in depth from 90 to 154 feet and draw water from the Sankoty Sand member (Latlock 1987).

Residences located outside of the Pekin municipal boundaries are served by private wells installed within the Sankoty Sand Member; the wells range in depth from approximately 62 to 148 feet BGS. Depth to groundwater at the site is approximately 40 feet BGS (E & E 1989).

4.1.2 Groundwater Releases

No monitoring wells exist on site; therefore, two groundwater samples were collected from off-site wells during the 1989 SSI conducted by E & E. Sample RW1 was collected from a utility well located approximately 500 feet west of the site, and sample RW2 was collected from the nearest known drinking water well, a municipal well located approximately 1.2 miles northeast of the site (see Figure 4-1 for well locations). Analytical results for the well samples revealed the presence of TAL analytes, including heavy metals and common soil constituents found in the area, and the presence of low levels of TCL compounds, including trihalomethanes, acetone, and methylene chloride (see Appendix A for a summary of SSI analytical results).

The TCL and TAL chemicals detected in samples RW1 and RW2 are either commonly found in the areas substrate, common laboratory artifacts, or were detected at concentrations below IEPA drinking water Maximum Contaminant Levels (MCLs) (Albers 1995). However, due to the high permeability of the glacial deposits (sand and gravel) in the area, the lack of a liner or leachate collection system on site, and the history of leachate and surface erosion problems at the site, a potential exists for on-site contaminants to migrate into the groundwater in the vicinity of the site.

4.1.3 Targets

Measured as straight-line distance, approximately 2,800 persons that reside within a 4-mile radius of the site (1,046 persons within a 3-mile radius) and on the east side of the Illinois River are served by private wells (E & E 1989). The potential target population for groundwater contamination includes approximately 34,000 total persons within the 4-mile radius and on the east side of the Illinois River who are served by private and municipal wells finished in the aquifer under investigation, including 1,427 who reside within 1 mile of the site, and 6,368 who reside within 2 miles of the site. Also included are persons outside of the 4-mile radius who are served by municipal wells that are located within the 4-mile radius of the site. The nearest drinking water well to the Pekin Municipal Landfill #1 site is believed to be the municipal well located approximately 1.2 miles northeast of the site, and the nearest available groundwater source in the area was the utility well located approximately 500 feet west of the site (E & E 1989).

4.2 SURFACE WATER MIGRATION PATHWAY

Based on site conditions at the time of the SSI, it is unlikely that a release to surface water has occurred at the Pekin Municipal Landfill #1 site. No surface water samples were collected during the 1989 SSI because no direct overland surface water migration pathways were observed and the site is generally lower in elevation than the surrounding land. On-site drainage pathways appear to flow toward the northwest corner of the site. However, the railroad tracks on the western border of the site are well above the surface of the landfill and prevent any surface water runoff from migrating off site. No storm drains or sewers are present on site (E & E 1989).

The nearest surface water body is Lost Creek, located approximately 875 feet west of the site. Lost Creek flows north and then discharges into the Illinois River approximately 0.9 mile from the site. No uses of Lost Creek are known (E & E 1989). Due to the absence of overland surface water migration routes from the site, no wetlands, sensitive environments, threatened or endangered species, or drinking water intakes downstream of the site would be adversely affected by TCL or TAL chemicals potentially present on site.

4.3 SOIL EXPOSURE PATHWAY

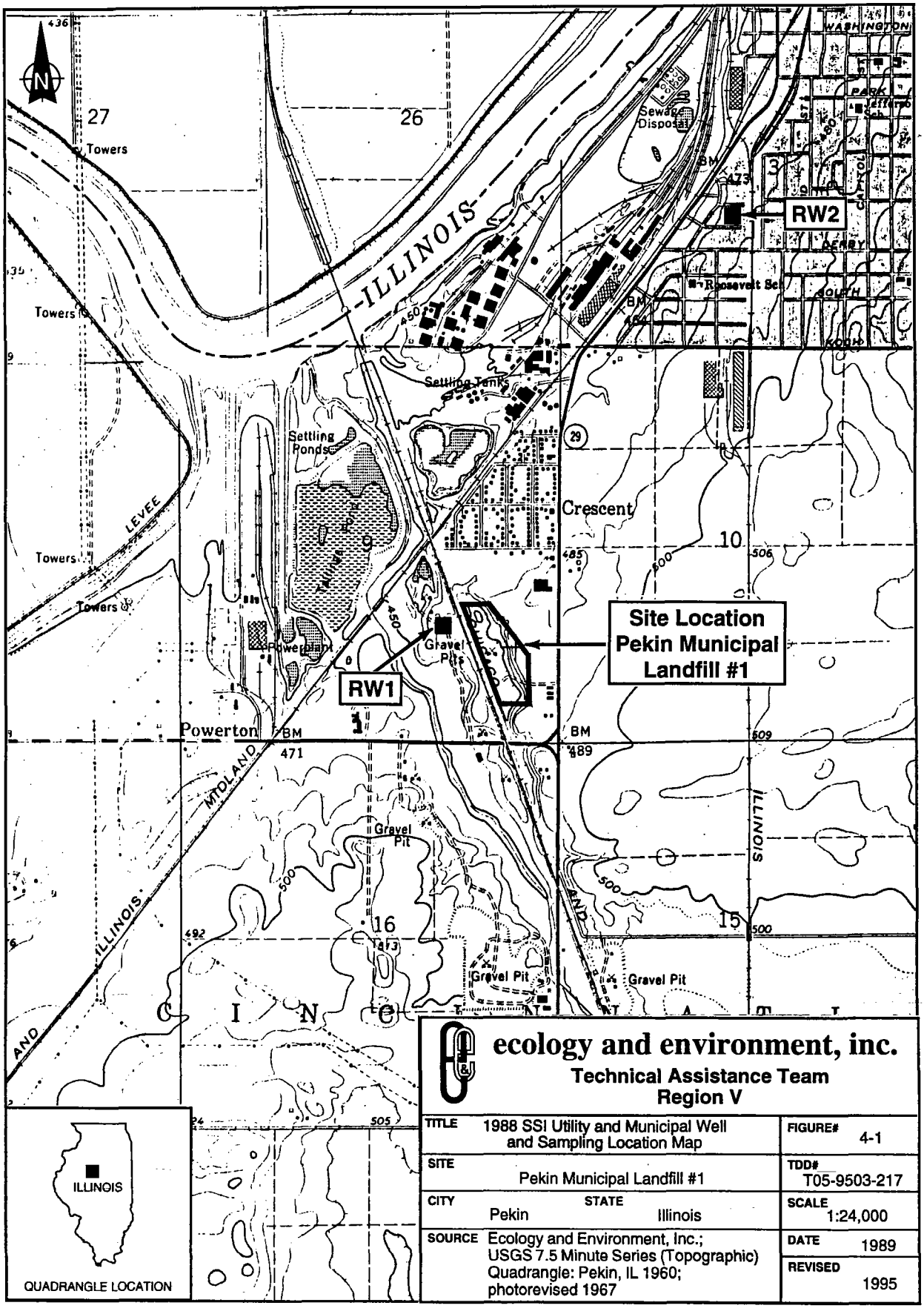
Based on site conditions at the time of the SSI a release of hazardous substances from the Pekin Municipal Landfill #1 site to surrounding soils is unlikely. Surface soil sampling locations are shown on Figure 2-2. No release of contaminants was observed except in a small area (approximately 4 foot by 4 foot) in which a tar-like material that had leaked from barrels was observed on the eastern side of the property during the SSI. Analytical data from the five surface soil samples collected during the 1989 SSI showed levels of TCL and TAL chemicals present in the surface soil at concentrations exceeding those detected in background sample S5 (see Appendix A for a summary of 1989 SSI analytical results). However, all TCL and TAL chemicals detected were either within the range of concentrations that naturally occur in the soils of Illinois (IEPA 1994), or were less than three times the concentration detected in the background sample (E & E 1989). In addition, the City of Pekin placed a final cover that was at least 2 feet thick on the former landfill in July 1980 in response to a court injunction.

The nearest resident is located 0.135 mile from the site. No soil samples have been collected from residential properties in the area. On-site soils consist of highly permeable sand and silt. A sand and gravel layer underlies the sand and silt, and the groundwater is found at a depth of approximately 40 feet BGS.

The site is only partially fenced, and evidence of trespassing was observed during the SSI. Based on straight line distances, the population within a 1-mile radius of the site is approximately 1,427 persons (USGS 1967). The site has been closed since 1976; therefore, there are no on-site workers who could come in contact with site soils. Based on the absence of hazardous constituents detected in the surface soil and the absence of surface water migration routes, sensitive environments, wetlands, or endangered species that exist within 4 miles of the site are not likely to be adversely affected by the site.

4.4 AIR MIGRATION PATHWAY

A release of hazardous substances to air from the Pekin Municipal Landfill #1 site is unlikely based on site conditions at the time of the SSI. No air samples were collected at the time of the SSI, and no air release of TCL or TAL chemicals was documented during the SSI. During the SSI, an organic vapor analyzer (OVA) Foxboro Model 128 flame ionization detector used by E & E FIT did not detect concentrations above background levels. Because the site is closed, there are no on-site workers that could potentially be exposed to possible on-site contaminants. Measured as straight-line distance, approximately 34,000 persons live within a 4-mile radius of the site. No wetlands or sensitive environments within a 1-mile radius of the site are known to have been impacted by releases to the air (E & E 1989).



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Region V

TITLE	1988 SSI Utility and Municipal Well and Sampling Location Map	FIGURE#	4-1
SITE	Pekin Municipal Landfill #1	TDD#	T05-9503-217
CITY	Pekin STATE Illinois	SCALE	1:24,000
SOURCE	Ecology and Environment, Inc.; USGS 7.5 Minute Series (Topographic) Quadrangle: Pekin, IL 1960; photorevised 1967	DATE	1989
		REVISED	1995

5. SUMMARY

E & E has evaluated the Pekin Municipal Landfill #1 site using U.S. EPA files, USGS topographic maps of the area, ISGS geologic maps, and information provided by the Illinois American Water Department. The Pekin Municipal Landfill #1 site has been an inactive municipal landfill since 1983 (E & E 1989). The site served as a municipal landfill from 1974 to 1983 for the City of Pekin, Illinois. An SSI was conducted at the site by the E & E FIT in 1989. Five surface soil samples, one municipal well, and one utility well sample were collect during the SSI for TCL and TAL analysis. All TCL and TAL chemicals detected in the samples collected during the SSI are commonly found in the area's substrate, common laboratory artifacts, or were detected below the IEPA drinking water MCLs (Albers 1995). See Appendix A for a summary of the 1989 SSI analytical results.

The City of Pekin obtains drinking water from seven municipal wells in the area. Residents located outside of the Pekin municipal boundaries are served by private wells. Municipal wells range in depth from 90 to 154 feet BGS, and private wells range in depth from 62 to 148 feet BGS (Latlock 1987). The Sankoty Sand Member, which ranges in thickness from approximately 50 to 60 feet in the Pekin area, constitutes the aquifer under investigation. The Pekin municipal wells all draw water from the Sankoty Sand Member (Latlock 1987), and based on private well logs of the area, it is believed that all private wells draw water from the same aquifer. Bedrock is encountered at approximately 75 feet BGS in the vicinity of the site; although based on well logs of the area, it appears to vary from approximately 60 to 150 feet BGS within a 4-mile radius of the site. The total population potentially affected by the site includes the approximately 34,000 persons within the 4-mile radius of the site and those on the east side of the Illinois River who are served by private and municipal wells using the aquifer under investigation. Groundwater in the area is believed to flow north toward the Illinois River (E & E 1989).

A release of hazardous substances to surface water is unlikely based on site conditions. Lost Creek, the nearest surface water body, is located approximately 875 feet

west of the site. The topography of the site is lower than the surrounding residential, agricultural, and industrial areas, and the raised railroad track right-of-way to the north and west effectively prevents surface water from migrating off site. No surface water drainage pathways were observed during the SSI.

A release of hazardous substances to on-site soils is unlikely based on site conditions at the time of the SSI. Analytical data from the five soil samples collected during the 1989 SSI showed levels of TCL and TAL chemicals present in the surface soil above background concentrations. However, all TCL and TAL chemicals detected were either within the range of concentrations that naturally occur in the soils of Illinois (IEPA 1994), or were less than three times the concentration detected in the background sample (E & E 1989). In addition, under a court injunction, the City of Pekin placed a final cover at least 2 feet thick on the former landfill in July 1980. No workers are currently employed at the Pekin Municipal Landfill #1 site. However, the site is not completely fenced. Approximately 1,427 persons live within a 1 mile radius, and evidence of trespassing was observed during the SSI.

Based on site conditions at the time of the SSI, a release of hazardous substances to air is unlikely. No records of complaints regarding odors are known to exist. No OVA readings above background levels were detected during the SSI.

Several small wetlands exist within a 4-mile radius of the site (USDI 1988). Several species of plants and animals are currently listed as threatened or endangered in Tazewell County (Herkert 1994), although none have been reported in the vicinity of the site (E & E 1989). However, the wetlands and endangered species that exist within 4 miles of the site are not likely to be adversely affected by the site due to the lack of hazardous constituents detected on site and the absence of surface water migration routes.

6. REFERENCES

References not provided in Appendix B include: documents that are currently available within U.S. EPA files; copyrighted documents that are currently available in E & E's library; maps produced by either the United States Geologic Survey or the Illinois State Geologic Survey; and documents that are created by the various state agencies for public use.

Albers, K., 1995, personal communication, Production Supervisor, Illinois American Water Company, Pekin, Illinois, telephone conversation, contacted by Robert Meyers of Ecology and Environment, Inc., Buffalo, New York.

Ecology and Environment, Inc., (E & E) 1989, *Screening Site Inspection Report for Pekin Municipal Landfill #1,* Chicago, Illinois.

Herkert, J.R., 1994, *Endangered and Threatened Species of Illinois: Status and Distribution, Volumes 1, 2, & 3,* Illinois Endangered Species Protection Board, Springfield, Illinois.

Illinois Environmental Protection Agency (IEPA), 1994, Office of Chemical Safety, *Technical Report, A Summary of Selected Background Conditions for Inorganics in Soil,* Springfield, Illinois.

_____, (IEPA), 1985, *Potential Hazardous Waste Site Preliminary Assessment (PA),* Springfield, Illinois.

Latlock, R., 1987, personal communication, Illinois American Water Department, Pekin, Illinois, telephone conversation, contacted by Thomas O'Brien of Ecology & Environment FIT, Chicago, Illinois.

United States Geological Survey, 1967, 7.5 minute series (topographic) quadrangle, Pekin, Illinois, photo revised 1979.

_____, 1960a, 7.5 minute series (topographic) quadrangle, Marquette Heights, Illinois, photo revised 1979.

_____, 1960b, 7.5 minute series (topographic) quadrangle, South Pekin, Illinois, photo revised 1979.

United States Department of the Interior (USDI), 1988, National Wetlands Inventory Map, Pekin, Illinois.

Willman, H.B., 1967, Geologic Map of Illinois, Illinois State Geological Survey, Urbana, Illinois.

APPENDIX A

1989 SCREENING SITE INSPECTION ANALYTICAL RESULTS

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED SOIL SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5
Date	11/15/88	11/15/88	11/15/88	11/15/88	11/15/88
Time	1130	1145	1200	1215	1330
CLP Organic Traffic Report Number	ECS34	ECS35	ECS36	ECS37	ECS38
CLP Inorganic Traffic Report Number	MECK42	MECK43	MECK44	MECK45	MECK46
Compound Detected (values in µg/kg)					
Volatile Organics					
2-butanone (MEK)	--	--	3J	--	--
toluene	6	7	3J	--	18
Analyte Detected (values in mg/kg)					
aluminum	7,840	8,080	12,700	16,200	9,460
antimony	6.5JNB	12.7JNB	--	7.8JNB	--
arsenic	6.5	6.0	5.2	11.9	5.8
barium	65.2	63.4	92.7	111	123
beryllium	.55B	1.2	1.2B	2.0	1.4
cadmium	--	--	--	--	.92B
calcium	32,100	55,200	3,660	28,00	3,380
chromium	14.1	12.5	19.6	23.8	14.5
cobalt	4.2B	7.2B	9.3B	11.3B	7.0B
copper	50.4JN	17.4JN	14.6JN	28.4JN	16.1JN
iron	16,600	15,800	18,900	29,900	14,600
lead	123J*	8.6J*	10.3J*	16J*	80.9J*
magnesium	16,900	27,600	3,510	17,500	1,700
manganese	388	538	467	708	557
nickel	16	17.9	17.5	27.8	12.8
potassium	974B	871B	1,110B	1,550	991B
selenium	.14JWB	--	.14JWB	.13JWB	.41B

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5
sodium	168B	195B	138B	234B	199B
thallium	.25B	--	--	.26B	.23B
vanadium	19.8	20.1	34.4	36.2	22.9
zinc	103JE	44JE	44.7JE	87.7JE	112JE

-- Not detected.

Table 4-1 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semi-quantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1989.

Table 4-2

RESULTS OF CHEMICAL ANALYSIS OF

FIT-COLLECTED UTILITY AND MUNICIPAL WELL SAMPLES

Sample Collection Information and Parameters	Sample Number RW1	RW2	Blank
Date	11/15/88	11/15/88	11/15/88
Time	1600	1345	1045
CLP Organic Traffic Report Number	ECS39	ECS40	ECS41
CLP Inorganic Traffic Report Number	MECK47	MECK48	MECK49
Temperature (°C)	15	14	18
Specific Conductivity (μmhos/cm)	1800	500	0
pH	15	14	18
Compound Detected (values in μg/L)			
Volatile Organics			
methylene chloride	.6J	--	--
acetone	2J	--	--
chloroform	--	.7	.2
bromodichloromethane	--	2	--
dibromochloromethane	--	4	--
bromoform	--	2	--
Analyte Detected (values in μg/L)			
aluminum	25.6JB	--	22.4JB
barium	27.4B	44.1B	--
beryllium	4.0BJ	--	--
calcium	240,000J	85,400J	90.5BJ
copper	9.2BJ	7.7BJ	103J
iron	3,850	--	--
magnesium	111,000J	36,800J	--
manganese	672	2.0JB	--
potassium	3,960J	1,230BJ	--
sodium	204,000J	9,460J	786BJ

Table 4-2 (Cont.)

Sample Collection Information and Parameters	Sample Number RW1	RW2	Blank
vanadium	4.9JB	--	—
zinc	548	—	24.9J

— Not detected.

Table 4-2 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1989.

APPENDIX B

REFERENCE DOCUMENTATION

Bob Meyers
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Mr. Kim Albers
Company Illinois American Water Company
~~Address~~ Title Production Supervisor, Pekin district
Phone (309)346-2172

Date 7.27.95
Time 5:15 AM (PM) EST

☒ Originator Placed Call
☐ Originator Received Call

Subject Pekin water supply system and water Testing / MCL's

Notes: Bob Meyers (E&E) called the Ill. American Water Company and talked with Mr. Kim Albers, the production supervisor for the Pekin district. The following information was provided:

- The Water system is chlorinated.
- All wells are sampled and the water analyzed for an extended list of parameters, Including Quarterly Sampling & Analysis for VOC's, SVOC's, and Inorganics (VOC's includes Total Tri-halo-Methane
- Nothing has been detected in the last 2 quarters which are of a health/compliance concern.
- All Samples are analyzed at the American Waterworks lab in Bellville Ill.
- The MCL for methylene chloride is = 5ppb (IEPA's MCL)
- The IEPA MCL for Total Tri-Halo-methanes (the only compounds detected in 1989 SSI sample RW2) is currently 100 ug/L

☒ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action:

recycled paper

ecology and environment